

Exhibit Q

van Diggelen 8,902,104 Applied to Representative Japan Radio Co., Ltd., Denso Ten, Panasonic, and Toyota Accused Products

This claim chart compares independent claims 1 and 12 of U.S. Patent No. 8,902,104 (“the ’104 patent”) to the GNSS receiver module CCA-700 manufactured by Japan Radio Co. Ltd. (“JRC”). The CCA-700 includes GNSS processing devices, such as TS0066 and TS0072 manufactured by JRC. At least the following GNSS processing devices are manufactured by Japan Radio Co. Ltd. (“JRC”): TS0066, TS0072, 7DLTS0075, 7DLTS0103 (collectively “Accused JRC chips”). On information and belief, the Accused JRC chips feature the same or substantially similar infringing functionality with respect to the ’104 patent.

On information and belief, JRC’s CCA-700 is similar to JRC’s GNSS receiver modules CCA-705 and CCA-800. The CCA-700, CCA-705, and CCA-800 (collectively “Accused JRC modules”) feature the same or substantially similar infringing functionality with respect to the ’104 patent.

The JRC TS0066 GNSS processing device and CCA-700 GNSS receiver module are incorporated in downstream products, including without limitation, Denso Ten (previously Fujitsu Ten) head units that form Accused Toyota Navigation units, including Corolla Navigation System Kit 261877, Camry Receiver 261876, and Camry Navigation System Receiver 223614. These Accused Toyota Navigation units are found in a variety of Accused Toyota automobiles, including Corolla and Camry models.

The JRC TS0072 GNSS processing device and CCA-700 GNSS receiver module are incorporated in downstream products, including without limitation, Panasonic head units that form Accused Toyota Navigation units, including Highlander Receiver 261875, Sienna Navigation unit 262107, and Avalon Navigation Head unit 261241. These Accused Toyota Navigation units are found in a variety of Accused Toyota automobiles including Highlander, Sienna, and Avalon models.

The JRC 7DLTS0103 GNSS processing devices are incorporated in downstream products, including without limitation, the Toyota Navigation Unit with WiFi Hotspot 86840-06011.

On information and belief, the Accused JRC chips, and head units and automobiles that incorporate the Accused JRC chips, infringe directly, indirectly, and/or under the doctrine of equivalents at least claims 1 and 12 of the ’104 patent.

Claims – U.S. Patent No. 8,902,104 (van Diggelen)	Application of Claim Language to Accused Product
Claim 1	
A method for determining a position of a mobile receiver, comprising:	To the extent the preamble is found limiting, the Accused JRC chips determine a position of a mobile receiver.
measuring a first pseudorange from the mobile receiver to a first satellite of a first satellite navigation system; .	<p>The Accused JRC chips measure a first pseudorange from the mobile receiver to the first satellite of the first satellite navigation system, such as GPS, based on the first satellite signal.</p> <p>The Accused JRC chips simultaneously receive pseudoranges from multiple GNSS, including GPS and Galileo, to determine a position of a mobile receiver. <i>See</i> Ex. 63 - Development of GPS Receiver, No. 61 2011, pgs 37-39; <i>see also</i> Ex. 64 at 9 -JRC Company Profile - (“A multi-GNSS (GPS/Galileo/QZSS/GLONASS/BeiDou/SBAS) module that is compatible with satellite positioning systems of various countries. Also reliably accurate in urban areas.”)</p> <p>The JRC CCA-700 receives satellite signals from first and second satellites from first and second satellite navigation systems, respectively.</p>

GPS receiver CCA-700 module	
GPS module	
Features Outline drawing specification Catalog PDF Official Statement PDF	
specification	
Reception method	L1 Band (1575.42MHz) GPS (C / A), SBAS, Galileo, quasi-zenith
Receive sensitivity	Acquisition level -155 dBm or less Tracking level -163 dBm or less
Positioning accuracy	2.2m CEP (5.3m 2DRMS)
TTF	Hot start 2 sec. Cold start 35 sec .
Consumption current	Icc: 42 mA typ. (DC 3.3 V, + 25 ° C, excluding Vant)
data format	NMEA 0183 or binary output

See Ex. 60 - http://www.jrc.co.jp/jp/product/lineup/cca700_module/spec.html (translated to English).

measure a second pseudorange from the mobile receiver to the second satellite of the second satellite navigation system based on the second satellite signal;

The Accused JRC chips measure a second pseudorange from the mobile receiver to the second satellite of the second satellite navigation system, such as Galileo, based on the second satellite signal.

The Accused JRC chips simultaneously receive pseudoranges from multiple GNSS, including GPS and Galileo, to determine a position of a mobile receiver. See Ex. 63 - Development of GPS Receiver, No. 61 2011- at 37-39; see also Ex. 64 at 9 - JRC Company Profile - ("A multi-GNSS (GPS/Galileo/QZSS/GLONASS/BeiDou/SBAS) module that is compatible with satellite positioning systems of various countries. Also reliably accurate in urban areas.")

The JRC CCA-700 receives satellite signals from first and second satellites from first and second satellite

navigation systems, respectively.

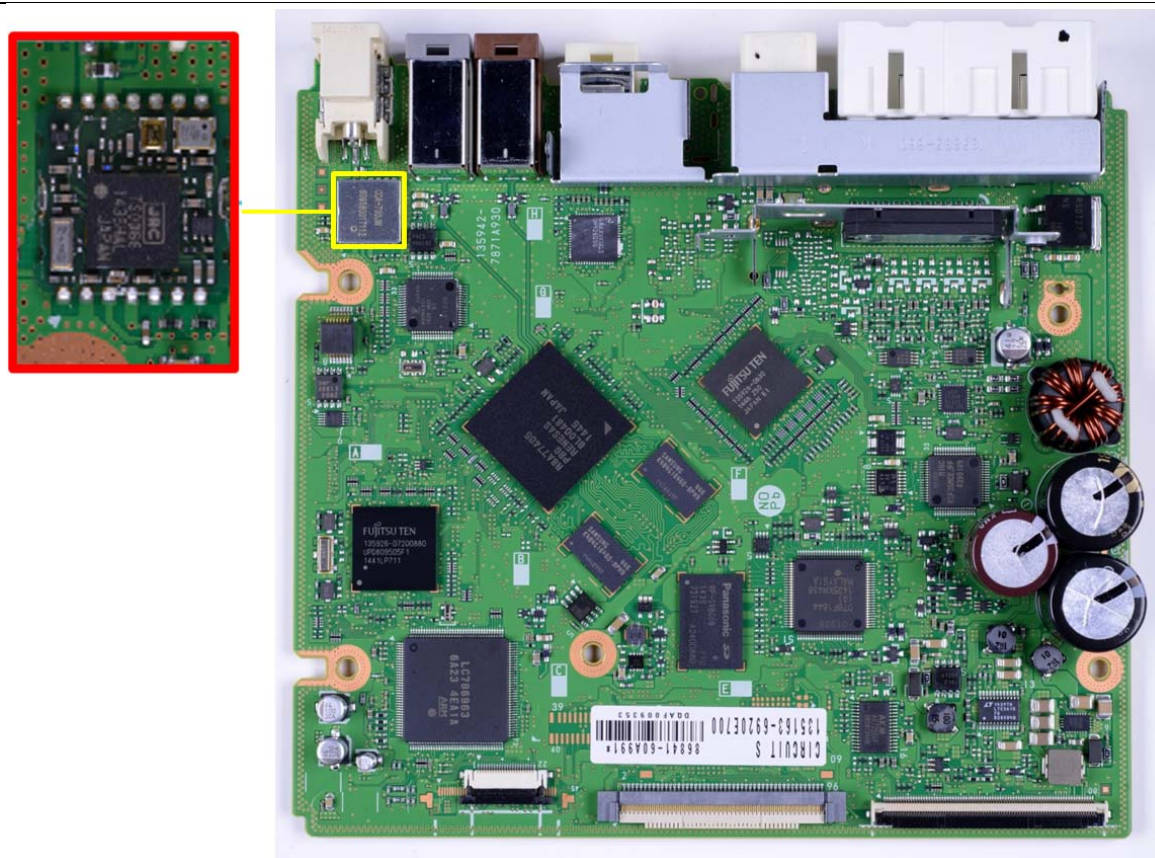
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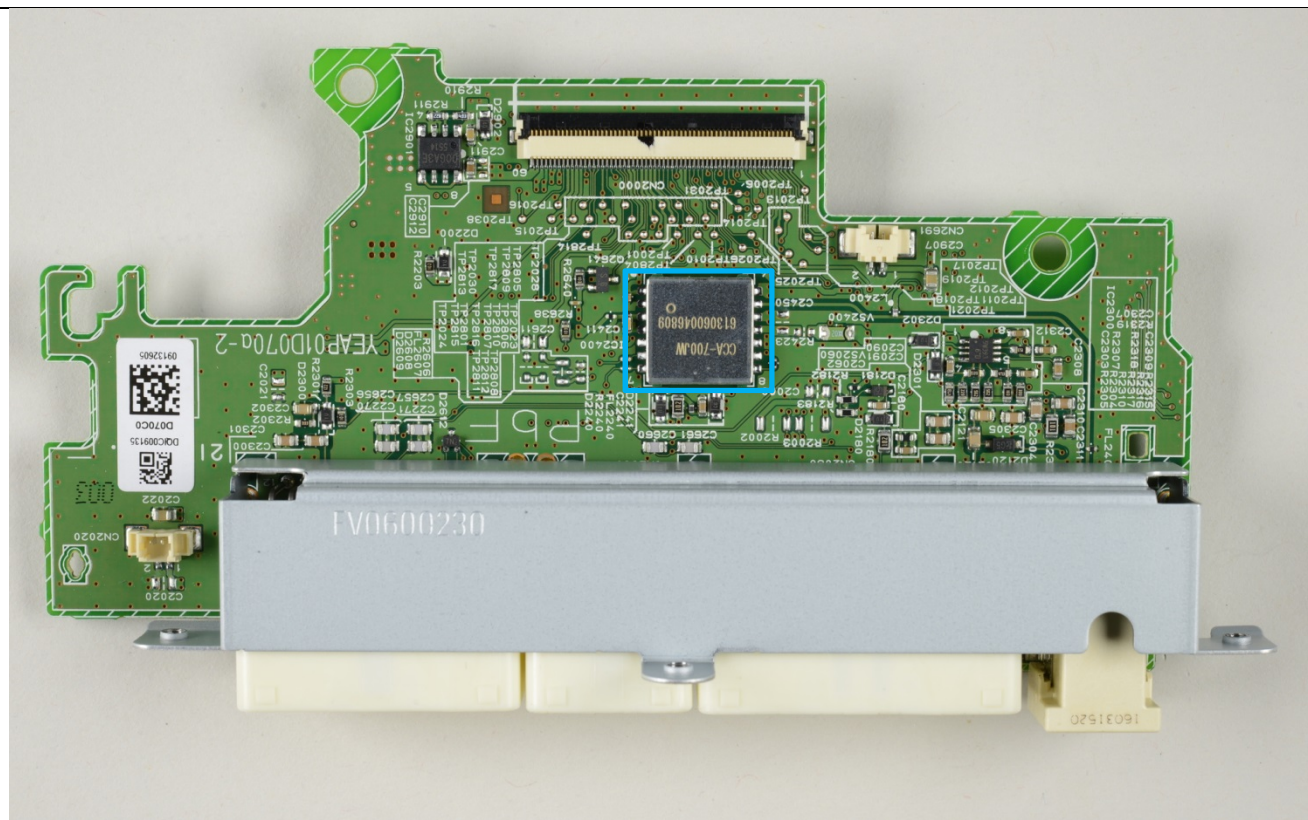
determine a difference between a first time reference of the first satellite navigation system and a second time reference of the second satellite navigation

The Accused JRC chips determine a difference between a first time reference from first satellite system, such as GPS, and a second time reference from the second satellite system, such as GLONASS or Galileo, in order to improve navigation service performance. See Ex. 62 - Declaration of Steven Goldberg - ¶ 18.

system; and	
combine the first pseudorange and the second pseudorange using the difference to generate combined first and second pseudoranges.	The Accused JRC chips combine the first and second pseudoranges using the difference to generate combined first and second pseudoranges. <i>See</i> Ex. 62 - Declaration of Steven Goldberg - ¶ 18.
Claim 12	
A mobile receiver, comprising:	To the extent the preamble is found limiting, the Accused JRC chips are mobile receivers.
satellite receiver circuitry configured to receive first and second satellite signals from first and second satellites respectively, the first and second satellites corresponding to first and second respective satellite navigation systems; and	<p>The Accused Toyota Navigation units include a satellite signal receiver for providing pseudoranges that estimate the range of the mobile device to a plurality of satellites.</p> <p>The Accused Toyota Navigation units include a JRC CCA-700 GNSS receiver module (highlighted in yellow) with a JRC TS0066 GNSS processing device (highlighted in red):</p>



The Accused Toyota Navigation units, such as the Highlander receiver (86140-0E280), includes a JRC CCA-700 receiver module (highlighted in blue) with a JRC TS0072 GNSS processing device:



The JRC CCA-700 receives satellite signals from first and second satellites from first and second satellite navigation systems, respectively.

GPS receiver CCA-700 module	
GPS module	
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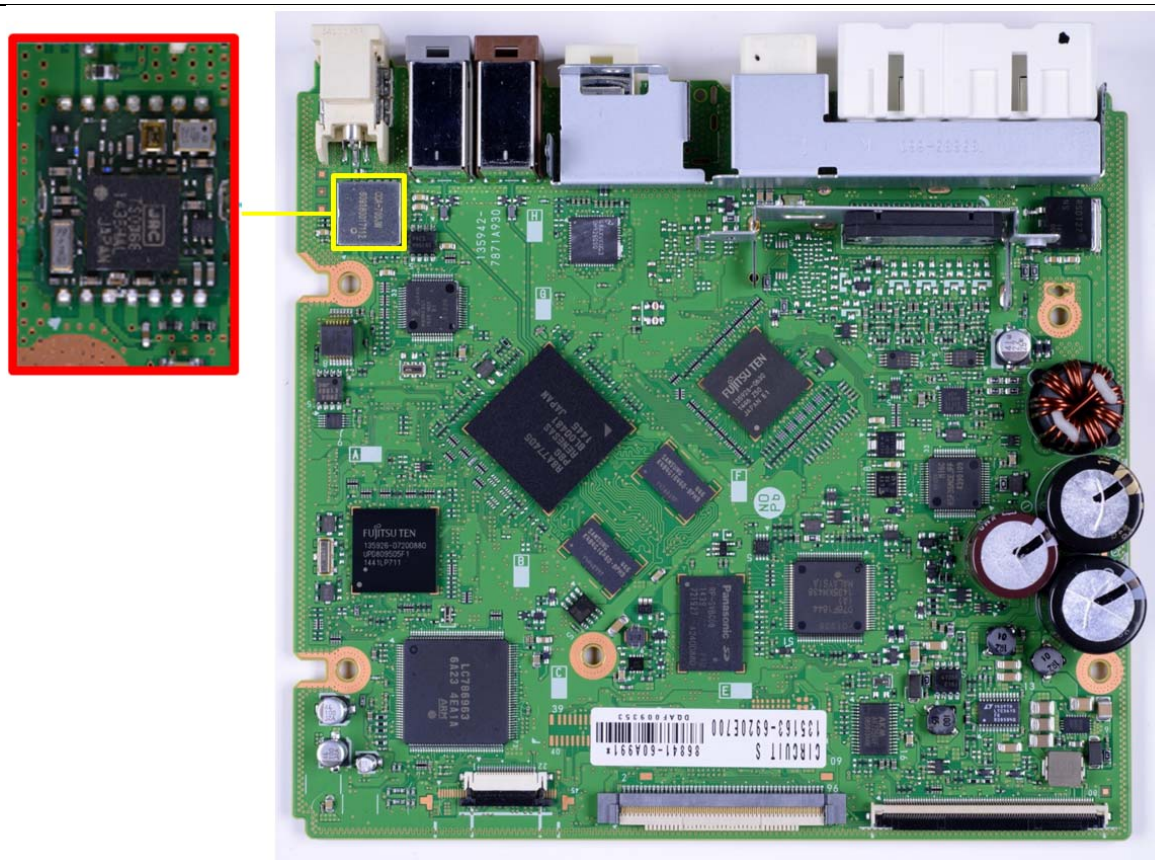
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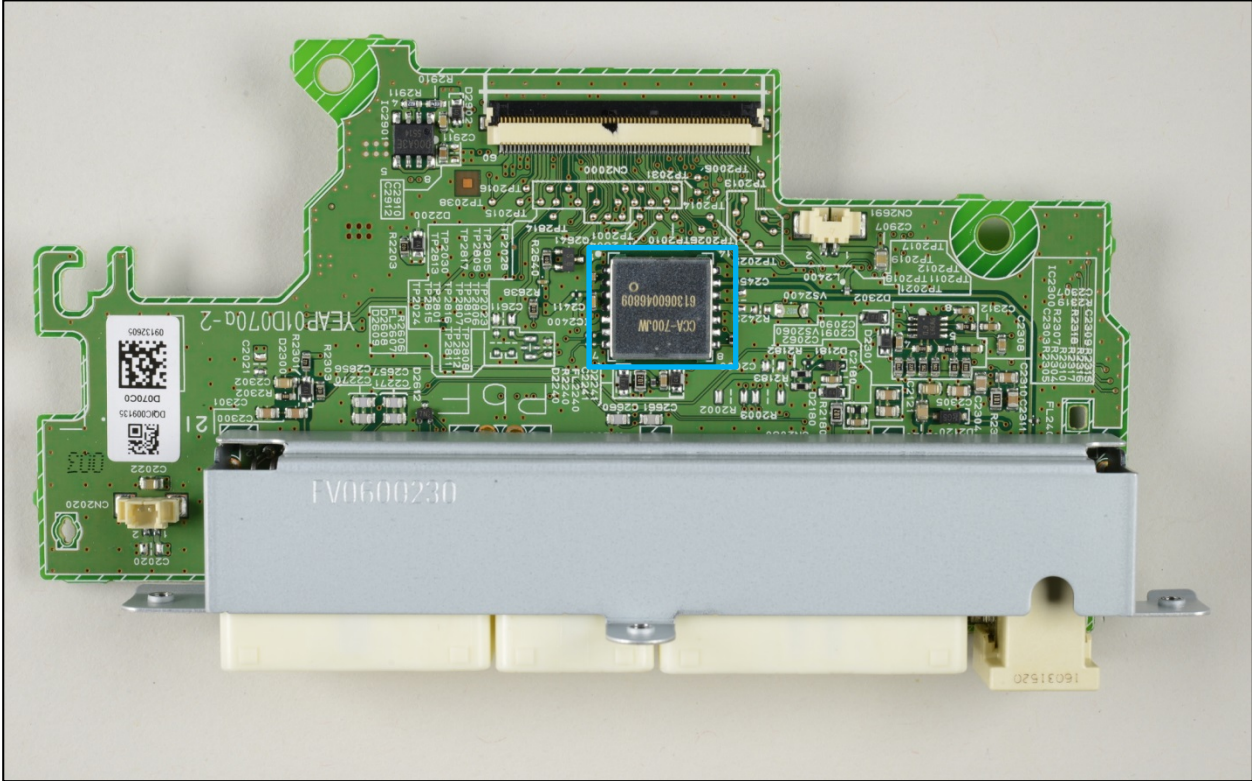
a processor configured to:

The Accused JRC chips include a processor:



The Accused Toyota Navigation units include a JRC CCA-700 GNSS receiver module (highlighted in yellow) with a JRC TS0066 GPS processing device (highlighted in red):



The Accused Toyota Navigation units, such as the Highlander receiver (86140-0E280), includes a JRC CCA-700 receiver module (highlighted in blue) with a JRC TS0072 GPS processing device:

	
<p>measure a first pseudorange from the mobile receiver to the first satellite of the first satellite navigation system based on the first satellite signal;</p>	<p>The Accused JRC chips measure a first pseudorange from the mobile receiver to the first satellite of the first satellite navigation system, such as GPS, based on the first satellite signal.</p> <p>The Accused JRC chips simultaneously receive pseudoranges from multiple GNSS, including GPS and Galileo, to determine a position of a mobile receiver. <i>See</i> Ex. 63 - Development of GPS Receiver, No. 61 2011, pgs. 37-39; <i>see also</i> Ex. 64 at pg. 9 - JRC Company Profile (“A multi-GNSS (GPS/Galileo/QZSS/GLONASS/BeiDou/SBAS) module that is compatible with satellite positioning systems of various countries. Also reliably accurate in urban areas.”)</p> <p>The JRC CCA-700 receives satellite signals from first and second satellites from first and second satellite</p>

navigation systems, respectively.

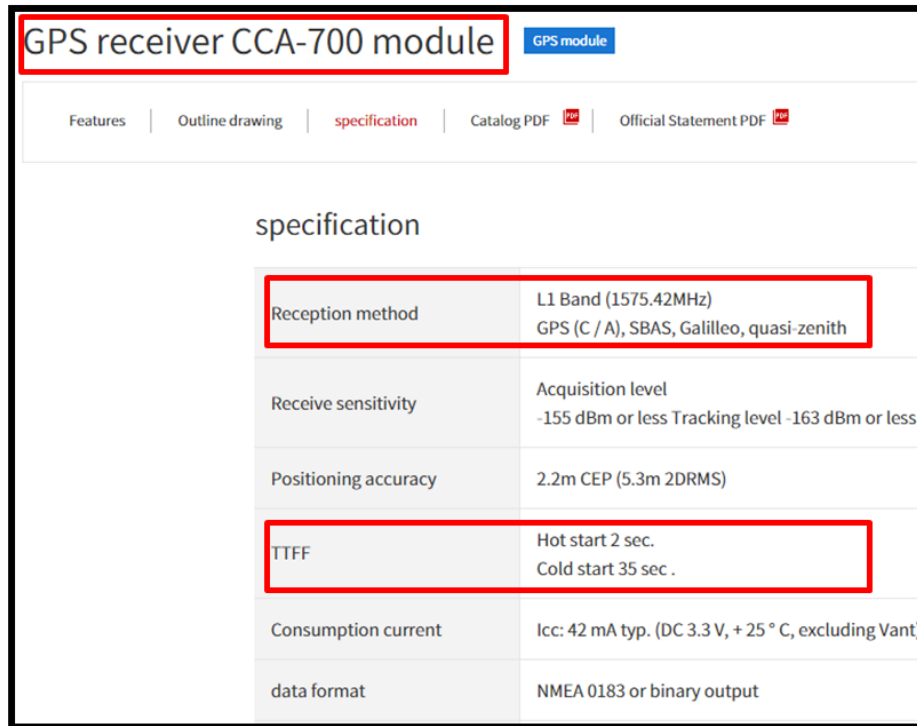
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The Accused JRC chips measure a second pseudorange from the mobile receiver to the second satellite of the second satellite navigation system, such as Galileo, based on the second satellite signal.

The Accused JRC chips simultaneously receive pseudoranges from multiple GNSS, including GPS and Galileo, to determine a position of a mobile receiver. See Ex. 63 - Development of GPS Receiver, No. 61 2011, at 37-39; see also Ex. 64 at 9 - JRC Company Profile (“A multi-GNSS (GPS/Galileo/QZSS/GLONASS/BeiDou/SBAS) module that is compatible with satellite positioning

signal;	<p>systems of various countries. Also reliably accurate in urban areas.”)</p> <p>The JRC CCA-700 receives satellite signals from first and second satellites from first and second satellite navigation systems, respectively.</p> <div data-bbox="552 438 1463 1159">  <p>GPS receiver CCA-700 module</p> <p>GPS module</p> <p>Features Outline drawing specification Catalog PDF Official Statement PDF</p> <p>specification</p> <table border="1"> <tr> <td>Reception method</td><td>L1 Band (1575.42MHz) GPS (C / A), SBAS, Galileo, quasi-zenith</td></tr> <tr> <td>Receive sensitivity</td><td>Acquisition level -155 dBm or less Tracking level -163 dBm or less</td></tr> <tr> <td>Positioning accuracy</td><td>2.2m CEP (5.3m 2DRMS)</td></tr> <tr> <td>TTFF</td><td>Hot start 2 sec. Cold start 35 sec.</td></tr> <tr> <td>Consumption current</td><td>Icc: 42 mA typ. (DC 3.3 V, + 25 ° C, excluding Vant)</td></tr> <tr> <td>data format</td><td>NMEA 0183 or binary output</td></tr> </table> </div> <p>See Ex. 60 - http://www.jrc.co.jp/jp/product/lineup/cca700_module/spec.html (translated to English).</p>	Reception method	L1 Band (1575.42MHz) GPS (C / A), SBAS, Galileo, quasi-zenith	Receive sensitivity	Acquisition level -155 dBm or less Tracking level -163 dBm or less	Positioning accuracy	2.2m CEP (5.3m 2DRMS)	TTFF	Hot start 2 sec. Cold start 35 sec.	Consumption current	Icc: 42 mA typ. (DC 3.3 V, + 25 ° C, excluding Vant)	data format	NMEA 0183 or binary output
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combine the first pseudorange and the second pseudorange using the difference to generate combined first and second pseudoranges.	The Accused JRC chips combine the first and second pseudoranges using the difference to generate combined first and second pseudoranges. <i>See</i> Ex. 62 - Declaration of Steven Goldberg - ¶ 18.